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REPORT OF PERMANENT CLOSURE OF UST SYSTEMS FOR FERNALD ENVIRONMENTAL MANAGEMENT PROJECT FERNALD, OHIO JUNE 1993

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REPORT

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REPORT OF PERMANENT CLOSURE OF UST SYSTEMS

FOR

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT FERNALD, OHIO

UNITED STATES DEPARTMENT OF ENERGY

FERNALD FIELD OFFICE

JUNE 1993

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REPORT OF PERMANENT CLOSURE OF UST SYSTEMS

FOR

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

UST GROUP NO. 2
STORAGE TANK NUMBERS 1, 2, 8, 9, AND 10
STATE FIRE MARSHAL INCIDENT NUMBER 319817-02

Submitted by:

UNITED STATES DEPARTMENT OF ENERGY

JUNE 1993

0 02

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FIGURES

1.0 INTRODUCTION

This report provides a general description of the permanent closure of five underground storage tank systems located within the Fernald Environmental Management Project (FEMP). The report details Bureau of Underground Storage Tank Regulations (BUSTR) required UST system closure data as well as a summary of site characteristics, history, and current status with regard to regulatory action under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA) statutes. Proposed future site investigation, design, and remedial action under various environmental regulations are also discussed.

2.0 GENERAL SITE INFORMATION

2.1 SITE DESCRIPTION

The underground storage tank (UST) closure project detailed within this report consists of a group of five UST systems located within a single excavation and closed as a single closure action. The tanks were located within the 1,050 acre FEMP in a rural portion of Hamilton and Butler Counties, approximately 18 miles northwest of the city of Cincinnati, Ohio. A single excavation encompassed all five UST systems, which were located in the southeast portion of the facilities' Production Area, adjacent to building No. 31. The general location of the site within the FEMP is shown on Figure 2-1.

The FEMP, formerly known as the Feed Materials Production Center, is a contractor operated federal facility which was used by the Department of Energy (DOE) for the production of pure uranium metals during the period from 1951 through 1989. Site media, including surface and subsurface soils, surface water, sediment, and groundwater in both the perched and Great Miami Valley Aquifer, have been determined to be contaminated by a wide variety of organic compounds, metals and radionuclides.

In order to address remediation in a systematic manner, the FEMP was divided into five operable units. All work associated with the underground storage tank program is of concern for Operable Unit 5, which consists of perched and regional groundwater, surface water, soils, sediments, flora, and fauna. The UST systems were located within the portion of the FEMP designated as the Production Area. A variety of volatile and semivolatile organic compounds have been detected in the perched and regional groundwater within the Production Area.

In the vicinity of the subject UST systems, subsurface materials located in the uppermost 15 feet of the ground surface have been described as glacial till consisting of sand, silt, and yellow-brown clay. The area was observed in several borings and piezometers to be uniformly underlain by a relatively thick gray clay material. Perched water was encountered in the glacial till at a depth of approximately 9 feet. Based on piezometer level measurements near the former tank locations, the potentiometric surface gradient within the perched zone appears to be toward the north and east. However the perched zone is considered to

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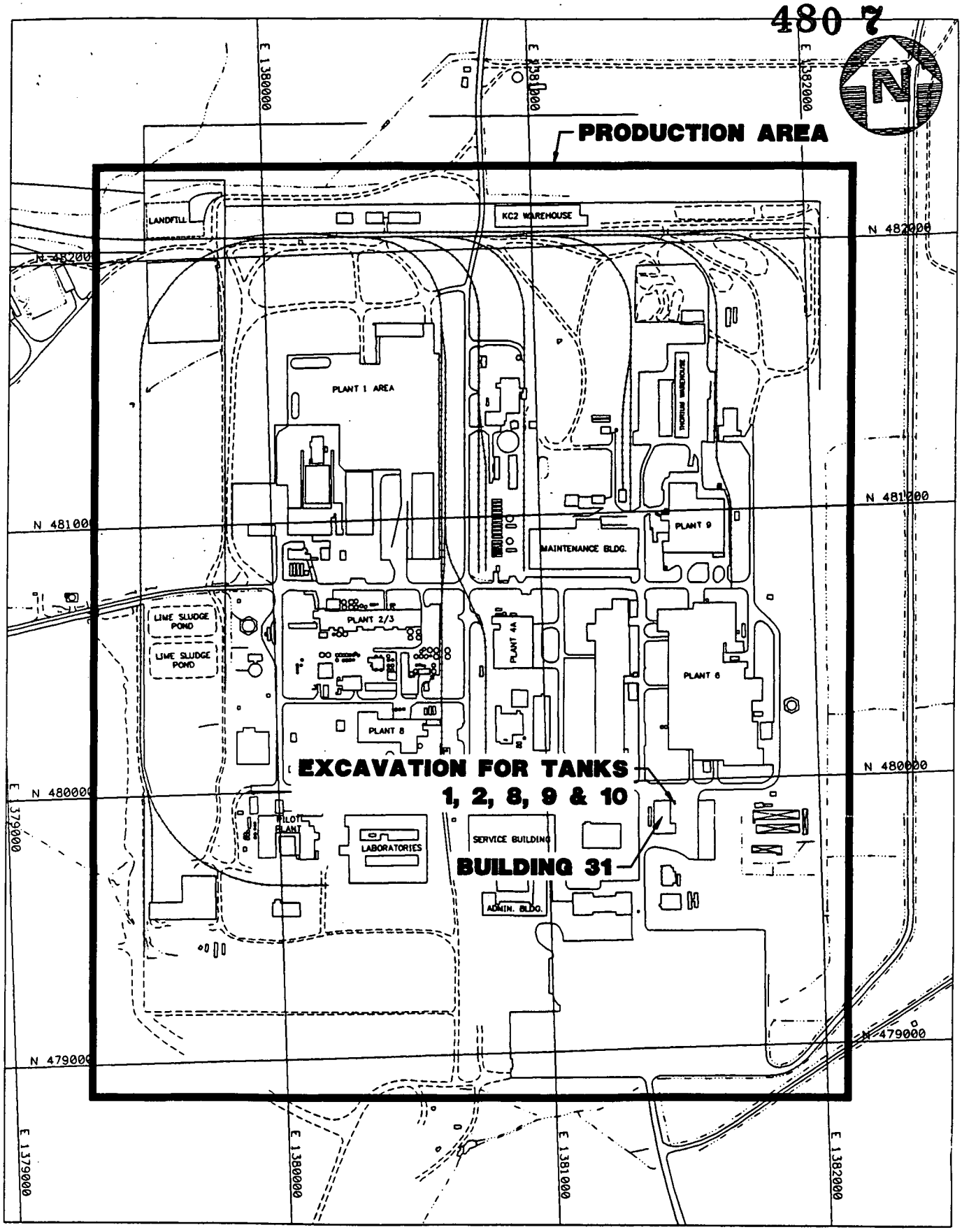


LOCATION MAP
UNDERGROUND TANK Nos. 1, 2, 8, 9 & 10
FERNALD, OHIO

0 07

FIGURE 2-1

consist of a complex system which may include several noncontinuous, separate, or partially interconnected perched zones. The exact direction of groundwater flow may therefore vary significantly in different portions of the site area and with seasonal fluctuation.

2.2 SITE REGULATORY HISTORY AND STATUS

During March 1985 the U.S. Environmental Protection Agency (EPA) issued a Notice of Noncompliance to DOE associated with the FEMPs' past and present operations. In July 1986 a Federal Facility Compliance Agreement (FFCA) was signed by EPA and DOE. The purpose of the FFCA was to assure compliance with existing environmental statutes and to implement regulations, including the Clean Air Act, Resource Conservation and Recovery Act (RCRA), And the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). In particular the FFCA was intended to ensure that environmental impacts associated with all past and present activities at the FEMP are thoroughly investigated such that appropriate remedial response actions would be assessed and implemented.

As discussed above, the five underground storage tanks removed from the excavation near Building No. 31 are located within the Production Area of the FEMP under Operable Unit 5. As such, the surface and subsurface conditions at the UST closure site are currently being characterized for remedial action under CERCLA.

In response to the FFCA, a Remedial Investigation and Feasibility Study (RI/FS) was initiated pursuant to CERCLA as defined by the National Contingency Plan (NCP). The FEMP was added to the National Priorities list in 1989. A Consent Agreement between the USEPA and USDOE was signed on April 9, 1990, and became effective on June 29, 1990. The agreement included continued compliance with the FFCA, the division of the site into five Operable Units, and outlined activities and schedules for the investigation and Record of Decision (ROD) for each Operable Unit in accordance with requirements of Section 120 of CERCLA. The Consent Agreement was revised in September 1991 to address new environmental issues and revise the schedules.

2.3 UST CLOSURE PROGRAM

The site-wide UST closure program at the FEMP consists of the permanent closure of 10 UST systems through excavation and removal procedures, and permanent abandonment in place of one UST system. The 11 UST systems comprise a total of five individual closure projects within the FEMP wide program. This

report addresses the closure of five systems which were permanently removed from an area encompassed by a single excavation, located adjacent to FEMP building No. 31.

2.3.1 Current Status of the Closure Program

Closure of the UST systems was initiated in 1990 with closure notification being submitted to BUSTR prior to the start of the project. Actual closure of all five tank systems was performed during the fall of 1990.

Closure reports for two of the five project areas were submitted to BUSTR in January, 1991. A Closure Report is expected to be submitted during June 1993 for a third project area (UST 14). Notice of "no further action required" has been received from BUSTR for the two areas covered by the first two Closure Reports (tank Numbers 3 and 6) submitted and is anticipated for the area covered by the Closure Report submitted in 1993.

This report addresses the fourth project area which is located adjacent to Building number 31. A Closure Report addressing the fifth site area included within the FEMP UST closure program (tank numbers 11, 12 and 13) will be prepared and submitted concurrent with this document.

2.3.2 Current Status of the Building No. 31 Closure Project

The underground storage tanks addressed by this Closure Report have been permanently removed from service by excavation and disposal of all system components. Removal action was completed during September 1990 with three separate excavations resulting from the removal work. Laboratory analysis of soil samples collected at the time of system closure indicated that residual soil contamination in excess of BUSTR action levels (from 1301:7-9-13 regulations, January 23, 1993) remained outside the limits of two of the three tank excavations. Additional excavation during the fall of 1991 resulted in extension of the excavated areas to encompass all three of the original tank excavations. This work resulted in the excavation being extended vertically to approximately 11 feet in depth and horizontally until structural or other constraints to excavation were encountered. The final excavation covered approximately 6,000 square feet of surface area with an estimated excavation and backfill volume of 2,500 cubic yards.

A request for extension of the submittal date for all reporting activities associated with the closure was submitted to BUSTR on May 23, 1991. Verbal updates, as well as an update letter dated February 11, 1992 have been provided to BUSTR during the period between closure and submittal of this report.

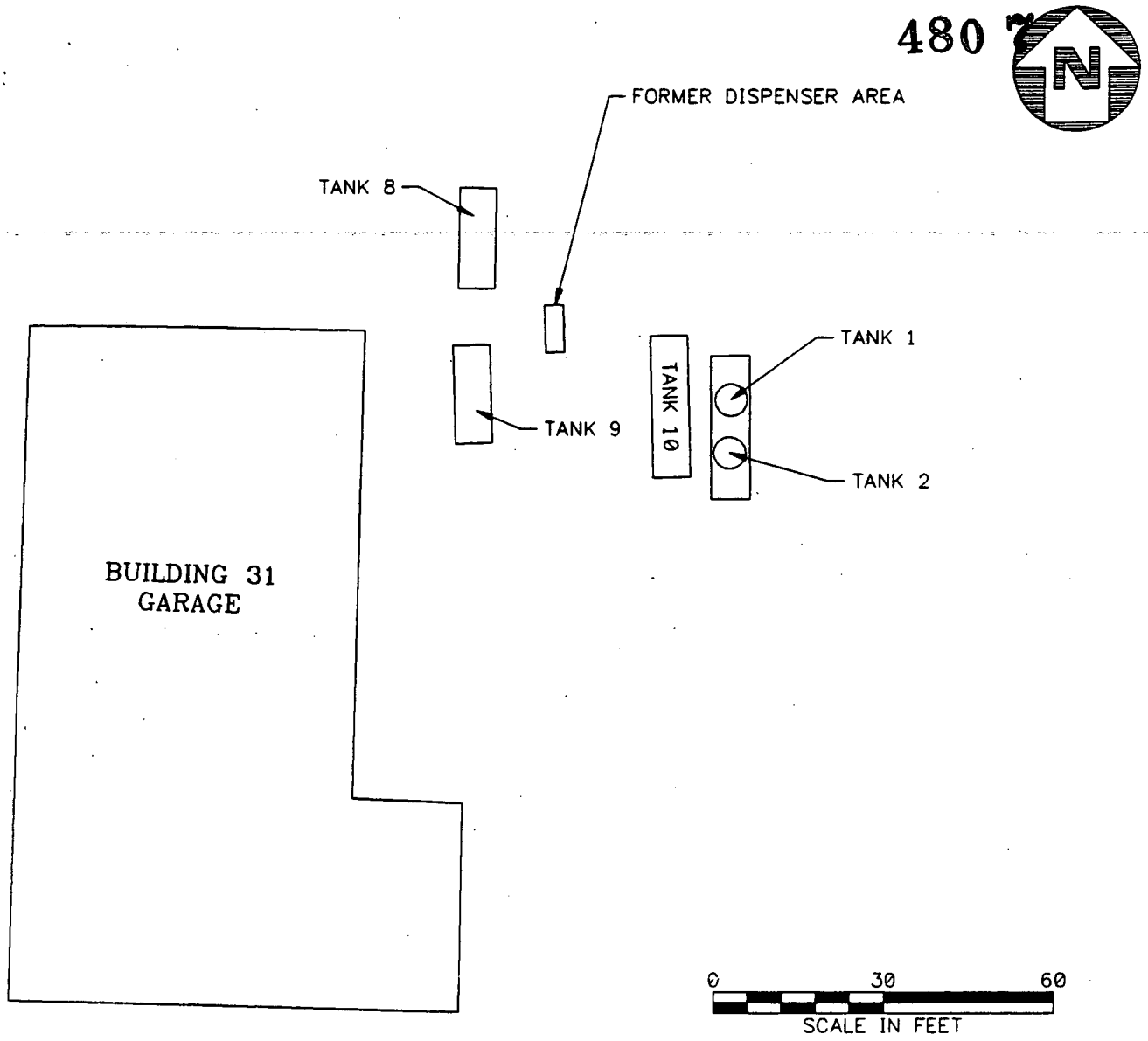
As discussed in the following section (Section 2.4), the FEMP is currently undergoing environmental restoration procedures under CERCLA statutes. Transfer of certain site responsibilities from DOE to contractor management, and from the original contractor (Westinghouse Environmental Management Company) to the current contractor (FERMCO), have resulted in delayed completion of reporting activities associated with the closure of the UST systems at the Building 31 facility.

This report is submitted for consideration as a final closure report for the Building 31 UST systems. The information provided is intended to fulfill all reporting requirements associated with the permanent closure of five underground tanks and all associated piping and equipment formerly located within the excavated and backfilled area adjacent to Building Number 31, as shown on Figure 2-2.

2.4 CERCLA ACTION UNDER THE FEMP

A Draft Site-wide Characterization Report (SWCR) was completed in August 1992 in accordance with a Federal Facility Compliance Agreement (FFCA) as amended by a Consent Agreement under CERCLA, signed April 9, 1990. Under an amendment to a Site Agreement signed by EPA and DOE on September 20, 1991, a site-wide operable unit was added to the five existing operable units which had been established by the Consent Agreement. The five operable units and the site-wide operable unit cumulatively include all locations and site media associated with the closure of the UST systems. This information is provided for the purpose of clarifying that responsibility for all site media associated with the UST closure are included within the scope of the site-wide remediation under CERCLA.

CERCLA action pursuant to the Consent Agreement includes establishment and evaluation of remedies for all operable units, to ensure that the remedies are protective of human health and the environment on a site-wide basis. A site-wide Remedial Investigation/Projected Residual Risk Assessment will be developed after Records of Decision (RODs) for the operable units have been finalized. The site-wide RI will incorporate all data collected pursuant to the RIs for Operable Units 1 through 5 and will summarize any data collected after finalization of the associated RODs.



LEGEND

TANK 8 ☐ FORMER UST LOCATION

0 11

SITE DIAGRAM
FEMP BUILDING 31
UNDERGROUND TANK Nos. 1, 2, 8, 9 & 10
FERNALD, OHIO

FIGURE 2-2

Remedial response actions will be embodied in the RODs for Operable Units 1 through 5. If the site-wide RI/Projected Residual Risk Assessment indicates that these remedies are protective of human health and the environment on a site-wide basis, a site-wide Feasibility Study (FS) will not be required. If however, the remedies selected and incorporated within the RODs are not found to be adequately protective, a site-wide FS will be prepared to evaluate additional remedial alternatives or modifications to selected alternatives for the further reduction of risk and achievement of protectiveness. In the event that the FS Report is considered to be required, a proposed plan describing the additional or modified remedial alternatives would be developed and published. This would be followed by submittal of a site-wide ROD.

Based on the above summary of the CERCLA action at the FEMP, it is apparent that the level of investigation, documentation, and remediation required to achieve a level of protectiveness considered to be adequate under the CERCLA ROD may be considered to be adequate to address any residual contamination associated with the UST closure project at Building 31.

3.0 BUILDING 31 UST SYSTEMS DATA AND CLOSURE INFORMATION

Information provided within this section is submitted in accordance with the Ohio Department of Commerce, Division of State Fire Marshal, Underground Storage Tank Regulations printed January 22, 1993, Section 1301:7-9-12, Subpart L, paragraphs a through f.

3.1 UST SYSTEM OWNER, OPERATOR AND FACILITY DATA

3.1.1 Facility Name

The Fernald Environmental Management Project (FEMP)

Formerly:
The Fernald Feed Materials Production Center (FMPC)

Currently managed by:
The Fernald Environmental Restoration Management Company
P. O. Box 398704
Cincinnati, Ohio 45239-~~6200~~
Telephone: (513) 738-6200

3.1.2 Facility Owner

United States Department of Energy (DOE)
P.O. Bos 398705
Cincinnati, OH 45239-8705
Telephone (513) 738-6200

3.1.3 UST System Owner

United States Department of Energy (DOE)
P.O. Bos 398705
Cincinnati, OH 45239-8705
Telephone (513) 738-6200

3.1.4 UST System Operator

Westinghouse Environmental Management Company (WEMCO) was the operator of the facility during the time that the UST systems were removed from service. The site, including all remaining UST closure activities, is currently managed by the Fernald Environmental Management Company (FERMCO). The address and telephone number of the system operator has not been included within this section since the systems have been completely decommissioned and removed from the site, and the last system operator (WEMCO) is not currently involved with any aspect of the project.

3.2 UST SYSTEM DATA

3.2.1 Age of the Systems

All five UST systems included within the scope of this Closure Report are of unknown age. All systems are considered to be in excess of 20 years in age.

3.2.2 Additional System Data

The following table includes all additional known and required system information for Tanks 1,2,8,9, and 10. No substances other than petroleum compounds are known to have been stored within any of the tanks.

UST SYSTEM DATA			
TANK NUMBER	**CAPACITY**	**MATERIAL CONTAINED**	**CONSTRUCTION**
1	1,500 Gallons	Gasoline	Fiberglass
2	1,500 Gallons	Gasoline	Fiberglass
8	1,000 Gallons	Gasoline	Steel
9	1,000 Gallons	Diesel Fuel	Steel
10	3,000 Gallons	Gasoline	Steel

3.2.3 Status of the Systems

The five UST systems covered within the scope of this report were permanently removed from service through excavation and disposal actions completed in September 1990. A Fire Marshal Closure Form for this work is included in Appendix C.

3.2.4 System Disposition

Following removal from the excavation, the tanks were cleaned and cut in several pieces and the scrap material was moved to a safe storage area on site for eventual disposal at the Nevada Test Site facility.

3.3 WASTE AND DEBRIS GENERATED DURING CLOSURE

3.3.1 Waste Disposal

Due to the potential for contamination of tank contents and adjacent soil by radioactive contaminants, all waste generated during closure and subsequent remediation excavation were inventoried and moved to storage areas within the facility. Groundwater removed from the excavation prior to backfilling was pumped to an onsite storm water retention lagoon, analyzed, and released following a determination that the liquid was not contaminated. An estimated 2,500 cubic yards of soil from the excavation have been stockpiled on site for future treatment and/or disposal. Liquid tank contents have been drummed and stored on site. The quantity and description of tank contents is provided in the following table.

Tank No.	Description of Liquid	Estimated Quantity
1	Water	750 Gallons
2	Water	750 Gallons
8	Gasoline/Water	400 Gallons
9	Diesel/Water	1,000 Gallons
10	Water	237 Gallons

No waste material has been landfilled or otherwise removed from the facility.

3.4 CLOSURE ASSESSMENT

3.4.1 Sample Collection Procedures

Samples from within the excavation were collected from the front bucket of a rubber-tired backhoe. Samples were obtained by excavating material from previously undisturbed portions of the excavation and were collected from the backhoe bucket immediately following removal from the excavation. Samples were then placed within plastic sample containers and sealed. Plastic sample containers were field screened using an HNu photoionization detector. Samples were then placed in air-tight glass sample jars and preserved by placing the containers on ice in an insulated cooler. Samples selected for laboratory analysis were determined on the basis of field screening results, with those having the highest readings from each sample being sent to the laboratory. Sample locations and head space measurements are discussed in Section 3.5.

Additional samples were collected from near surface soil locations in the vicinity of the product dispenser island. With the exception that these samples were collected using hand-held excavating equipment instead of a backhoe, all sampling procedures were identical to those used for sampling of the tank pit excavations.

3.4.2 Chain-of-Custody

Chain-of-custody records were maintained throughout the course of sample shipping and analysis. Copies of the chain-of-custody forms are provided in Appendix A.

3.4.3 Sampling Company

Executive Resource Associates
4985 Cinncinatti-Brookville Road
Cincinnati, Ohio 45030
Pat Brennan
Telephone: (513) 738-0002

3.4.4 Laboratory Identification

Soil samples were forwarded to the following laboratory for analysis:

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, Ohio 45439
John Andrejcio
Telephone: (513) 294-6856

3.4.5 Fire Inspector Identification

BUSTR
7510 East Main Street
Reynoldsburg, Ohio 43068-3395
Inspector Baker
Telephone (614) 752-8200

3.4.6 Local Fire Department

Crosby Township Fire Department
6985 River Road
New Baltimore, Ohio
Fire Chief Jim Miller
Telephone (513) 385-8335

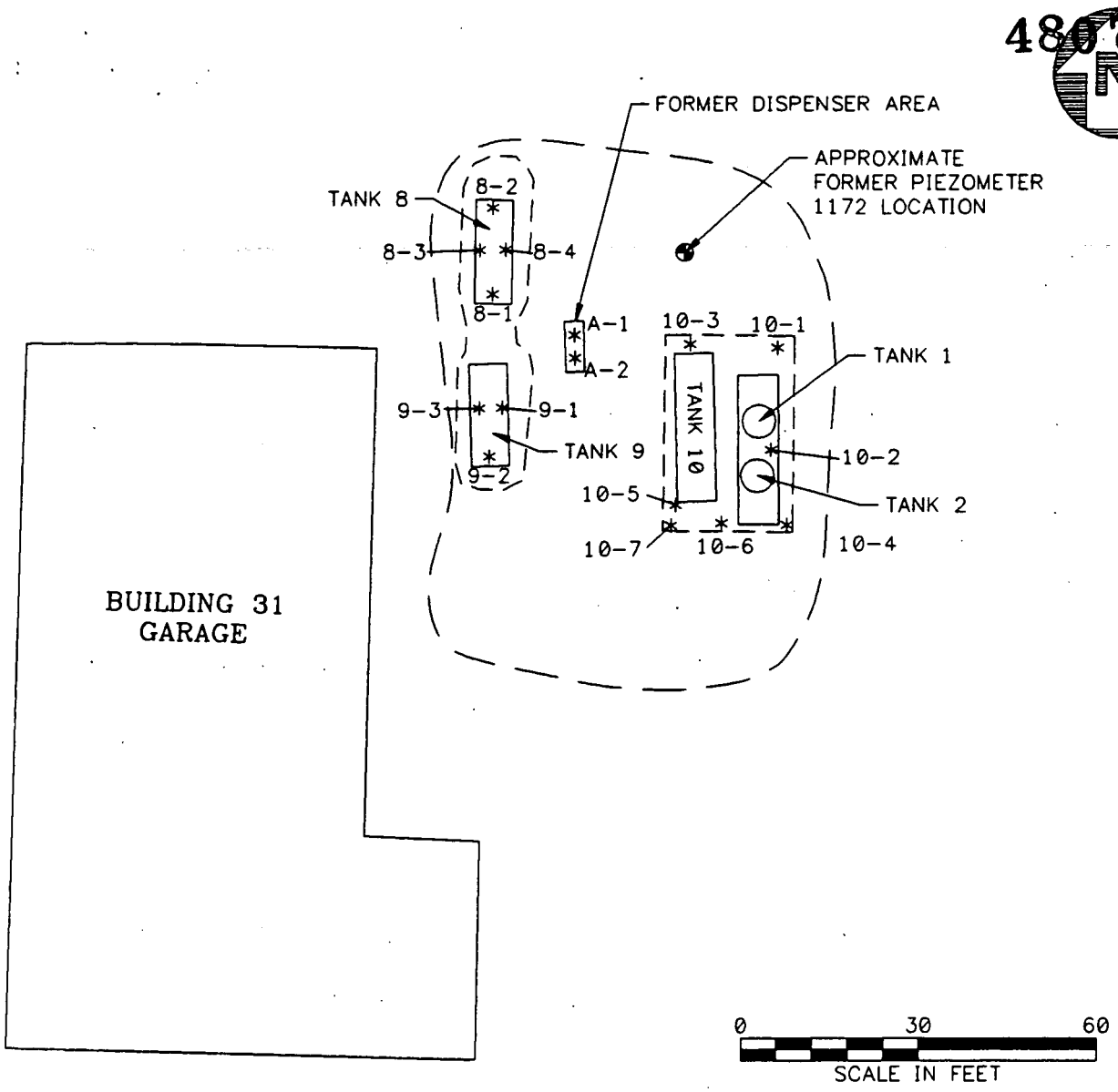
3.5 CLOSURE ASSESSMENT RESULTS

Closure assessment activities performed during both the initial excavation in 1990 as well as the extended excavation in 1991 indicated that residual contamination was associated with the UST systems. One groundwater sample was also collected from the immediate vicinity of the closed UST systems. Analysis of the groundwater sample indicated that low levels of petroleum hydrocarbon compounds were present in the perched aquifer at the site. Six samples of standing water within the original three excavations (subsequent work resulted in expansion of these three tank pits to form a single excavation) indicated that all BTEX compounds were below the 0.5 PPB detection limit and that TPH was below a detection limit of 1 PPM. Sampling of the perched groundwater for uranium analysis indicated that significant concentrations of this contaminant are present in the vicinity of the former UST locations.

A total of 17 soil samples were collected from the excavations for tanks 1,2,8,9 and 10 during system closure. Nine of the 17 samples were submitted to the laboratory for analysis. Samples submitted to the laboratory were chosen on the basis of field screening results, with those having the highest concentrations of volatile organic compounds being selected for laboratory analysis. Portable instrumentation sample screening data are presented in the Field Screening Results table provided below. Analytical laboratory reports are included in Appendix B.

Field Screening Results	
Sample Location*	**Photoionization Detector Measurement (PPM)**
8-1	200
8-2	200
8-3	40
8-4	180
A-1	7
A-2	15
9-1	13
9-2	11
9-3	3
10-1	7.8
10-2	6.8
10-3	5.2
10-4	6.5
10-5	6.6
10-6	5.0
10-7	5.6
10-8	4.4

* As shown on Figure 3-1



ANALYTICAL SUMMARY

SAMPLE LOCATION	8-1	8-2	8-4	9-1	9-2	A-1	10-1	10-2	10-5	P1172 •
SAMPLE DEPTH (ft)	10	10	4	10	10	2	10	10	10	NA
BENZENE (ug/kg)	271	121	14.1	34.6	<5.0	<5.0	41.4	<0.5	<0.5	14
TOLUENE (ug/kg)	382	379	8.26	14.4	<5.0	<5.0	106	5.96	<0.5	6
ETHYLBENZENE (ug/kg)	1190	4470	23.9	528	<5.0	<5.0	18.1	<0.5	<0.5	38
XYLENE (ug/kg)	11300	1320	202	11.4	<10.0	<10.0	149	27.7	<10.0	300
TPH (mg/kg)	285	287	56	656	519	19	61	<10.0	<10.0	1.5

• GROUNDWATER SAMPLE

LEGEND

9-1 * SAMPLE LOCATION - FALL 1990

TANK 8 FORMER UST LOCATION

APPROXIMATE EXCAVATION BOUNDARY FALL 1990

APPROXIMATE EXCAVATION BOUNDARY FALL 1991

CAVATION, SAMPLING, AND ANALYSIS SUMMARY

FEMP BUILDING 31

UNDERGROUND TANK Nos. 1, 2, 8, 9 & 10

FERNALD, OHIO

0 19

FIGURE 3-1

Based on the Site Feature Scoring System (OAC 1301:7-9-13 pages 5-7) the UST group consisting of tanks 1, 2, 8, 9 and 10 falls within Category 3 action levels. Copies of the completed scoring sheets are included in Appendix C. Analysis of the nine soil samples submitted to the laboratory indicates that two of the samples exceed the Category 3 action level of 0.335 ppm for Total Petroleum Hydrocarbons. Samples exceeding this action level included soil collected from sample locations 9-1 and 9-2 with TPH concentrations of 656 ppm and 519 ppm, respectively. BTEX compound concentrations did not exceed action levels in any of the soil samples analyzed.

The locations of all soil samples collected, as well as the location of the groundwater sample point (Piezometer 1172) are shown on Figure 3-1. A summary table of analytical results is included on Figure 3-1 and provides laboratory data for the nine soil samples and one groundwater sample submitted to the laboratory for analysis. Copies of the laboratory reports for the excavation soil samples are included in Appendix B.

3.6 VISUAL SITE EVALUATION

Prior to excavation of the UST systems a visual evaluation of the site conditions was completed. The following observations were made at the time that this work was performed:

- A concrete pump island approximately 3 feet wide and 20 feet long projected above the surrounding pavement and was located immediately above UST No. 10. Two pump dispenser systems were located on the island.

- A concrete slab with two fill caps was located in a position overlying UST Nos. 1 and 2.

- Two vent lines projected above the ground surface at the east wall of the garage building.

4.0 FUTURE INVESTIGATION AND REMEDIATION AT THE SITE

4.1 ACTIONS UNDER CERCLA

Extensive investigation and remedial action at the FEMP will be conducted under CERCLA, as discussed in Section 2.0 of this document. Since significant uranium contamination has been determined to be present within site media in the vicinity of the former UST locations, the comprehensive environmental restoration program will include all affected media within the subject site area.

4.2 ACTIONS UNDER RCRA SUBTITLE I

Analytical data associated with closure of the UST systems indicated that only relatively minor residual contamination remained in the surrounding media after completion of tank removal. Additional excavation was completed at the site subsequent to tank removal work and resulted in extension of the excavation to various horizontal limits on all sides. Additional remediation at the site will be performed in accordance with site cleanup requirements under CERCLA.

Since site data indicates that only minor residual petroleum hydrocarbon contamination remains at the site, and due to the location of the site within a large scale CERCLA remediation project area as discussed in Section 2.4, no additional action under RCRA Subtitle I will be performed at the site.

The State of Ohio, Department of Commerce, Bureau of Underground Storage Tank Regulations is requested to thoroughly review the information provided within this document and notify the Department of Energy of their concurrence, or of any exceptions which they may have, with this determination.

APPENDIX A

CHAIN OF CUSTODY

WESTINGHOUSE MATERIALS COMPANY OF OHIO

P.O. BOX 398704, CINCINNATI, OHIO 45239-8704

Control #: _____

ANALYSIS REQUEST / CUSTODY RECORD

Pg 1 of 2

PROJECT: UST Soil Sampling	CLIENT: Env. Chem. & Surv.	TECHNICIAN/EXT.:
PROJECT #:	CLIENT CONTACT: Lance Hall	CHARGE #:
PE/PM: John Eckstein	PHONE: 6802	LOT MARK CODE:

SAMPLE IDENTIFICATION							ANALYSIS REQUESTED (SEE REVERSE FOR PARAMETERS)					
							TABLE					
SAMPLE NUMBER	CUSTOMER NUMBER	DESCRIPTION	MATRIX	DATE/TIME COLLECTED	CONTAINER/ PRESERVATIVE	# CONT/ VOLUME	1	2	3	4	5	6
EM-2166		UST #8 Sample 8-1	Soil	12/13/90, 1300	Glass-TLC/none	4-4oz		X		X		X
EM-2167		" Sample 8-2	"	" , 1305	" "	"		X		X		X
EM-2168		" Sample 8-4	"	" , 1312	" "	"		X		X		X
EM-2169		UST #9 Sample 9-1	"	" , 1316	" "	"		X		X		X
EM-2170		" Sample 9-2	"	" , 1318	" "	"		X		X		X
EM-2171		" Sample A-1	"	" , 1324	" "	"		X		X		X
EM-2172		UST 13 Sample 13-3	"	" , 1410	" "	"		X		X		X
EM-2173		UST 13 Sample 13-4	"	" , 1415	" "	"		X		X		X
EM-2174		UST 13 Sample 13-6	"	" , 1420	" "	"		X		X		X
EM-2175		UST 11+12 Sample 12-1	Soil	12/13/90, 1550	Glass-TLC/none	1-4oz		X		X		X

Copy To:

ITEM/REASON	RELINQUISHED BY	RECEIVED BY	DATE	TIME	ITEM/REASON	RELINQUISHED BY	RECEIVED BY	DATE	TIME
12 Samples	Cindy Farrell	Carol Cardenas	12/14/90	1000					

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Kelly NET

WESTINGHOUSE MATERIALS COMPANY OF OHIO

P.O. BOX 398704, CINCINNATI, OHIO 45239-8704

Control #: _____

ANALYSIS REQUEST / CUSTODY RECORD

Pg 1 of 1

PROJECT: UST Soil Sampling	CLIENT: Env. Char. & Surv.	TECHNICIAN/EXT.:
PROJECT #:	CLIENT CONTACT: Lance Hall	CHARGE #:
PE/PM: John Eckstein	PHONE: 6862	LOT MARK CODE:

SAMPLE IDENTIFICATION

SAMPLE NUMBER	CUSTOMER NUMBER	DESCRIPTION	MATRIX	DATE/TIME COLLECTED	CONTAINER/ PRESERVATIVE	# CONT/ VOLUME	ANALYSIS REQUESTED (SEE REVERSE FOR PARAMETERS) TABLE 1	2	3	4	5	6
Em 2125		UST #10 Sample 10-1	Soil	12-7-90/1255	glass-TLC/none	1-4oz		X		X		X
" 2126		" " 10-2	↓	" /1302	↓	↓		X		X		X
" 2127		" " 10-5	↓	" /1316	↓	↓		X		X		X

Copy To: J Eckstein

ITEM/REASON	RELINQUISHED BY	RECEIVED BY	DATE	TIME	ITEM/REASON	RELINQUISHED BY	RECEIVED BY	DATE	TIME
Analysis	[signature]	Carol Anderson	12-10-90	1005					

0 24

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WESTINGHOUSE MATERIALS COMPANY OF OHIO

P.O. BOX 398704, CINCINNATI, OHIO 45239-8704

Control #: _____

ANALYSIS REQUEST / CUSTODY RECORD

Pg 1 of 2

PROJECT: Underground Storage Tank
PROJECT #:
PE/PM: J. Epstein

CLIENT: Env Chem & Spec
CLIENT CONTACT: L Hall
PHONE: 6787

TECHNICIAN/EXT.: L Hall
CHARGE #: R2N01
LOT MARK CODE:

SAMPLE IDENTIFICATION

SAMPLE NUMBER	CUSTOMER NUMBER	DESCRIPTION	MATRIX	DATE/TIME COLLECTED	CONTAINER/ PRESERVATIVE	# CONT/ VOLUME	ANALYSIS REQUESTED TABLE 1	2	3	4	5	6
EM 2104		Station 11/12	liquid	10/24/90/1056	Poly / HNO3 Glass / —	3-40ml 1-950cc 1-125cc		X				X
2105		11/12		1000				X				X
2106		13		1010				X				X
2107		13		1010				X				X
2108		6		1045				X				X
2109		6		1045				X				X
2110		3		1310				X				X
2111		3		1310				X				X
2112		8		1340				X				X
2113		8		1340				X				X

Copy To:

ITEM/REASON	RELINQUISHED BY	RECEIVED BY	DATE	TIME	ITEM/REASON	RELINQUISHED BY	RECEIVED BY	DATE	TIME
	[signature]	[signature]	10/26	1335					

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APPENDIX B

B-1 ANALYTICAL DATA - SOILS

B-2 ANALYTICAL DATA - WATER

APPENDIX B-1

ANALYTICAL DATA - SOILS

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NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

Sample Location: 10-1

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

01-10-91

Sample No.: 61671

PAGE 1

Sample Description: EM-2125

Date Taken: 12-07-90

Date Received: 12-12-90

Lead	7.20	mg/Kg
TPH Method 8020-BTEX-Soil		
Benzene	41.4	ug/Kg
Toluene	106.	ug/Kg
Ethyl Benzene	18.1	ug/Kg
Xylene	149.	ug/Kg
TPH Method 418.1-Soil	61.	mg/Kg

0 28

John Andrejcio
Project Manager

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NET NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

Sample Location: 10-2

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

01-10-91

Sample No.: 61672

PAGE 2

Sample Description: EM-2126

Date Taken: 12-07-90

Date Received: 12-12-90

Lead	5.34	mg/Kg
TPH Method 8020-BTEX-Soil		
Benzene	<5.	ug/Kg
Toluene	5.96	ug/Kg
Ethyl Benzene	<5.	ug/Kg
Xylene	27.7	ug/Kg
TPH Method 418.1-Soil	<10.	mg/Kg

John Andrejcio
Project Manager

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4807

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

Sample Location: 10-5

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

01-10-91

Sample No.: 61673

PAGE 3

Sample Description: EM-2127

Date Taken: 12-07-90

Date Received: 12-12-90

Lead	4.24	mg/Kg
TPH Method 8020-BTEX-Soil		
Benzene	<5.	ug/Kg
Toluene	<5.	ug/Kg
Ethyl Benzene	<5.	ug/Kg
Xylene	<10.	ug/Kg
TPH Method 418.1-Soil	<10.	mg/Kg

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John Andrejcio
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

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ANALYTICAL REPORT

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

01-15-91

PAGE 1

DATE RECEIVED: 12-19-90

SAMPLE NO.	SAMPLE DESCRIPTION	DATE TAKEN
62572	EM-2166 Sample Location: 8-1	12-13-90

Lead	13.2	mg/Kg
TPH Method 8020-BTEX-Soil		
Benzene	271.	ug/Kg
Toluene	382.	ug/Kg
Ethyl Benzene	1190.	ug/Kg
Xylene	11300.	ug/Kg
TPH Method 418.1-Soil	285.	mg/Kg

SAMPLE NO.	SAMPLE DESCRIPTION	DATE TAKEN
62573	EM-2167 Sample Location: 8-2	12-13-90

Lead	11.2	mg/Kg
TPH Method 8020-BTEX-Soil		
Benzene	121.	ug/Kg
Toluene	379.	ug/Kg
Ethyl Benzene	4470.	ug/Kg
Xylene	1320.	ug/Kg
TPH Method 418.1-Soil	287.	mg/Kg

John Andrejcio
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

4807

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

01-15-91

DATE RECEIVED: 12-19-90

SAMPLE NO.	SAMPLE DESCRIPTION		DATE TAKEN
62574	EM-2168 Sample Location: 8-4		12-13-90
Lead		10.0	mg/Kg
TPH Method 8020-BTEX-Soil			
Benzene		14.1	ug/Kg
Toluene		8.26	ug/Kg
Ethyl Benzene		23.9	ug/Kg
Xylene		202.	ug/Kg
TPH Method 418.1-Soil		56.	mg/Kg

SAMPLE NO.	SAMPLE DESCRIPTION		DATE TAKEN
62575	EM-2169 Sample Location: 9-1		12-13-90
Lead		8.92	mg/Kg
TPH Method 8020-BTEX-Soil			
Benzene		34.6	ug/Kg
Toluene		14.4	ug/Kg
Ethyl Benzene		528.	ug/Kg
Xylene		11.4	ug/Kg
TPH Method 418.1-Soil		656.	mg/Kg

John Andrejcio
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest Inc.
Dayton Division
3501 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

4807

ANALYTICAL REPORT

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

01-15-91

DATE RECEIVED: 12-19-90

SAMPLE NO.	SAMPLE DESCRIPTION		DATE TAKEN
62576	EM-2170 Sample Location: 9-2		12-13-90
Lead		7.67	mg/Kg
TPH Method 8020-BTEX-Soil			
Benzene		<5.	ug/Kg
Toluene		<5.	ug/Kg
Ethyl Benzene		<5.	ug/Kg
Xylene		<10.	ug/Kg
TPH Method 418.1-Soil		519.	mg/Kg

SAMPLE NO.	SAMPLE DESCRIPTION		DATE TAKEN
62577	EM-2171 Sample Location: A-1		12-13-90
Lead		35.6	mg/Kg
TPH Method 8020-BTEX-Soil			
Benzene		<5.	ug/Kg
Toluene		<5.	ug/Kg
Ethyl Benzene		<5.	ug/Kg
Xylene		<10.	ug/Kg
TPH Method 418.1-Soil		19.	mg/Kg

John Andrejcio
Project Manager

APPENDIX B-2

ANALYTICAL DATA - WATER

NET NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

4807

ANALYTICAL REPORT

Sample Location: SW-2

'illiam Hayes
'ESTINGHOUSE MATERIALS
COMPANY OF OHIO
'.O. Box 398704
:incinnati OH 45239

11-29-90

Sample No.: 55499

PAGE 10

Sample Description: EM2113

)ate Taken: 10-26-90

Date Received: 10-26-90

i	0.019	mg/L
Method 8020-BTEX-Water		
zene	<0.5	ug/L
ıene	<0.5	ug/L
yl Benzene	<0.5	ug/L
ane	<1.	ug/L
Method 418.1-Water	<1.	mg/L

John Andrejcio
Project Manager

NET NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

4807

ANALYTICAL REPORT

Sample Location: SW-1

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

11-29-90

Sample No.: 55498

PAGE 9

Sample Description: EM2112

Date Taken: 10-26-90

Date Received: 10-26-90

Lead	0.083	mg/L
TPH Method 8020-BTEX-Water		
Benzene	<0.5	ug/L
Toluene	<0.5	ug/L
Ethyl Benzene	<0.5	ug/L
Xylene	<1.	ug/L
TPH Method 418.1-Water	<1.	mg/L

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John Andrejcio
Project Manager

NET NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

4807

ANALYTICAL REPORT

Sample Location: 9W-1

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

11-29-90

Sample No.: 55500

PAGE 11

Sample Description: EM2114

Date Taken: 10-26-90

Date Received: 10-26-90

.d	0.011	mg/L
l Method 8020-BTEX-Water		
ɪzene	<0.5	ug/L
ɪuene	<0.5	ug/L
ɪyl Benzene	<0.5	ug/L
lene	<1.	ug/L
ɨ Method 418.1-Water	<1.	mg/L

John Andrejcio
Project Manager

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NET NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

4807

ANALYTICAL REPORT

Sample Location: 9W-2

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

11-29-90

Sample No.: 55501

PAGE 12

Sample Description: EM2115

Date Taken: 10-26-90

Date Received: 10-26-90

Lead	0.011	mg/L
TPH Method 8020-BTEX-Water		
Benzene	<0.5	ug/L
Toluene	<0.5	ug/L
Ethyl Benzene	<0.5	ug/L
Xylene	<1.	ug/L
TPH Method 418.1-Water	<1.	mg/L

John Andrejcio
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

4807

ANALYTICAL REPORT

Sample Location: 10W-1

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

11-29-90

Sample No.: 55502

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Sample Description: EM2116

Date Taken: 10-26-90

Date Received: 10-26-90

Lead	0.005	mg/L
TPH Method 8020-BTEX-Water		
Benzene	<0.5	ug/L
Toluene	<0.5	ug/L
Ethyl Benzene	<0.5	ug/L
Xylene	<1.	ug/L
TPH Method 418.1-Water	<1.	mg/L

John Andrejcio
Project Manager

NET NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

4806

Sample Location: 10W-2

William Hayes
WESTINGHOUSE MATERIALS
COMPANY OF OHIO
P.O. Box 398704
Cincinnati OH 45239

11-29-90

Sample No.: 55503

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Sample Description: EM2117

Date Taken: 10-26-90

Date Received: 10-26-90

Lead	<0.005	mg/L
TPH Method 8020-BTEX-Water		
Benzene	<0.5	ug/L
Toluene	<0.5	ug/L
Ethyl Benzene	<0.5	ug/L
Xylene	<1.	ug/L
TPH Method 418.1-Water	<1.	mg/L

John Andrejcio
Project Manager

NET NATIONAL ENVIRONMENTAL TESTING, INC.

NET Midwest, Inc.
Dayton Division
3601 South Dixie Drive
Dayton, OH [illegible]
Tel: (513) 294-6856
Fax: (513) 294-7816

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NOTES AND COMMENTS PAGE 15

Samples were analyzed as authorized by purchase order 898000, release number 137.

Samples were analyzed as follows:

Parameter	Method	Detection Limit
Lead	7421	<0.005 mg/L
BETX	8020	<0.5 ug/L
		<1. ug/L (Xylene only)
TPH	418.1	<1. mg/L

Sample numbers 55496 and 55497 exhibited a very prominent odor. They were run at a 1:10 dilution, which results in the higher detection limits given. The presence of apparent higher weight hydrocarbons would not allow a lower dilution to be used.

John Andrejcio
Project Manager

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APPENDIX C

BACKGROUND INFORMATION AND CORRESPONDENCE

STATE FORMS

- Site Feature Scoring System
- Closure Report Checklist Form

SFM SITE FEATURE SCORING SYSTEM (SFSS) CHART

(USE "SFSS GUIDELINES" TO COMPLETE THIS CHART)

4807

I. OWNERSHIP OF TANKS	II. LOCATION OF TANKS
United States Department of Energy ~~P.O. Box 549~~ ~~Ross, Ohio 45061~~	Fernald Environmental Management Project Fernald, Ohio

Site Features	COLUMN A		COLUMN B		COLUMN C		COLUMN D	
	Score 20	Enter Score	Score 15	Enter Score	Score 10	Enter Score	Score 5	Enter Score
1. Distance of UST system from closest potable-water supply source currently in use is:	> 1000 ft.		300-1000 ft		< 300 ft.		Inside of designated sensitive area	20
2. Depth to groundwater is:	> 50 ft.		31-50 ft.		15-30 ft. or unknown		< 15 ft.	5
3. Predominant soil type of substratum is:	Clay or shale		Silt or clayey sands or fine sandstone		Silty sand or fine sand, unknown, or sandstone		Clean sand, gravel, or conglomerate	20
4. Natural and/or man-made conduits or receptors - See Worksheet Below	< 8		8-10		11-13		> 13	15
Subtotals:								
							TOTAL SCORE (SUBTOTALS)	60

SITE FEATURE 4 WORKSHEET:

Basements or subsurface foundations within 100 feet of UST system	4 points	0*
Storm sewer within 50 feet of UST system	4 points	4
Sanitary sewer within 50 feet of UST system	4 points	4
Septic system leach field within 50 feet of UST system	2 points	0
Water line main within 50 feet of UST system	1 point	1
Natural Gas line main within 50 feet of UST system	1 point	1
Bedrock area prone to dissolution along joints of fractures within 100 feet of UST system	1 point	0
Faults or known fractures within 100 feet of UST system	1 point	0
Buried telephone/television cable main within 50 feet of UST system	1 point	0
Buried electrical cable main within 50 feet of UST system	1 point	0
	TOTAL POINTS	10

SSFS ACTION LEVELS (PPM)

CONSTITUENT	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4
TOTAL SCORE	< 31	31-50	51-70	> 71
Soil BTEX	.006/4/6/28	.170/7/10/47	.335/9/14/67	.500/12/18/85
Groundwater BTEX	.005/1/.700/10	.005/1/.700/10	.005/1/700/10	.005/1/.700/10
Soil TPH (Gasoline)	105	300	450	600
Soil TPH (Others)	380	642	904	1156

* Points added if condition not known.

DIVISION OF STATE FIRE MARSHAL-BUREAU OF UNDERGROUND STORAGE TANK REGULATIONS

CLOSURE REPORT CHECKLIST FORM

480?

OWNERSHIP OF TANKS	LOCATION OF TANKS
ıited States Department of Energy ~~O. Box 549~~ ~~ssa, Ohio 45066~~	Fernald Environmental Management Project Fernald, Ohio

FILING INSTRUCTIONS

A. In the column on the left side of the form, place either the page number or appendix designation where each item on the checklist can be found in the closure report or "N/A" (Not Applicable) for items that do not apply to your closure report. If "N/A" is indicated, you must also indicate the the page number accordingly.
B. UST owner must sign where indicated on page 2 of this form and attach it to the Closure Report. Deficient closure reports submitted to our office will be returned to the UST owner for completion. Send the closure report checklist form and the closure report to the address as indicated on the enclosed cover letter.

NOTE: UST OWNER/OPERATORS SHALL SUBMIT ONE COPY OF THE WRITTEN CLOSURE REPORT WHICH SHALL BE RECEIVED BY THE STATE FIRE MARSHAL WITHIN 45 DAYS OF RECEIPT BY THE UST OWNER/OPERATOR OF SOIL AND/OR GROUNDWATER LABORATORY ANALYSIS BUT NOT LATER THAN 90 DAYS FROM THE DATE OF COLLECTING SOIL AND/OR GROUNDWATER SAMPLES.

UST SYSTEM OWNER, OPERATOR, AND FACILITY DATA

UST Owner (name; address; zip code; county; phone no.)
UST Operator (name; address; zip code; county; phone no.)
UST Facility Location (name; address; zip code; county; phone no.)
UST Facility Owner (name; address; zip code; county; phone no.)

UST SYSTEM DATA

UST System(s) Age (years)
UST(s) Capacity (gallons)
UST System(s) Construction (i.e., steel, fiberglass, etc.)
Date UST System(s) Last Used
Person(s) Who Last Used UST System
Substance(s) Stored in UST(s) both past and present (i.e. gasoline, diesel fuel, used oil, etc.)
UST System Use (i.e., retail sales, residential, farm, business, etc.)
UST(s) System Status (Permanently Removed or Abandoned-In-Place)
Disposal of UST(s) System

WASTE DISPOSAL DATA

Method of Disposal and Final Location of Excavated Soil(s) and Backfill Materials
Amount of Soils and Backfill Excavated (cubic yards)
Disposal and final Location of any liquids from UST System or UST System Excavation
Locations of Soil Samples taken from Excavated Soil Waste Pile(s)
Copies of Laboratory Data Sheets of Soil Samples taken from Excavated Soil(s) and Backfill Materials

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SAMPLING DATA

(Groundwater sampling data only required if groundwater encountered during closure activities)

3-3 Soil and/or Groundwater Sample Collection Procedures
3-4 Type of Sample Containers and Sample Preservation Techniques Used for Soil and/or Groundwater Samples
3-7 Labeling Number or Designation of Soil and/or Groundwater Sample(s) Used
3-4 Type of Sampling Equipment Used (i.e., split spoon, shelby tube, etc.)
3-4 Decontamination Procedures of Sampling Equipment Used
3-4 Field Screening Methodology Used for each Soil and/or Groundwater Samples Obtained
3-4 Type of Field Screening Instrument Used
3-6 Listing of Field Screening Readings for each Soil and/or Groundwater Sample Obtained
NA Calibration Methodology Used for Field Screening Instrument
3-7 Locations and Depths of all Soil and/or Groundwater Samples Obtained
A-A Copy of Chain of Custody Documentation for Soil and/or Groundwater Samples submitted to Laboratory
3-4 Sample Collector(s) Name and Company Affiliation

. LABORATORY DATA

(Groundwater laboratory data only required if groundwater encountered during closure activities)

A-B Copies of Laboratory Sample Analysis Data Sheets for Soil and/or Groundwater Samples
A-B Date Soil and/or Groundwater Samples Collected
A-B Date Soil and/or Groundwater Samples Received by Laboratory
A-B Date Soil and/or Groundwater Samples Analyzed by Laboratory and type of Matrix Analyzed (soil or water)
3-5 Name, Address, and Phone No. of Laboratory and name of Sample Analyst
A-B Analytical Test Methods Used for Soil and/or Groundwater Samples
A-B Detection/Quantitation Limits Used for Laboratory Test Methods
A-B Laboratory Instrument Calibration used

I. MISCELLANEOUS DATA

2-2 Site Map Accurately Depicting Dimensions of Facility Property Boundaries, Above Ground Structures, adjacent street locations, and UST Systems (no. of tanks and product lines)
NA Mapped Locations of Known Private Wells, Public Water Wells, or Monitoring Wells on Facility
NA Mapped Locations of Any Utilities Exposed During UST System Excavation
2-1 Description of Native Soils Encountered During UST System Excavation (i.e., sands, gravels, clays, etc.)
3-7 Mapped Depths and Locations of all Soil and/or groundwater Samples taken from Excavation
3-8 Visual Site Evaluation
2-6 Mapped Locations of UST(s) Recently or Historically Removed, Abandoned-In-Place, or have undergone a Change in Service
NA Mapped Locations of Other UST Still in Service
3-6 Mapped Length of UST(s) and Product Line(s)
3-6 Mapped Excavation Limits
3-4 Certified Fire Safety Inspector Name and Certificate Number
3-4 Local Fire Department (name; address; zip code; county; phone) with jurisdiction over UST site
A-C Copy of 30 Day Closure Notification and Closure Permit

'(s) Owner Signature: Edward Stanisk Date: 10/12/93

DIVISION USE ONLY

'iewed By: _____ Date: _____

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SFM SITE FEATURE SCORING SYSTEM (SFSS) CHECKLIST 4807

(SUBMIT TO SFM AS APPENDIX OR ADDENDUM TO CLOSURE REPORT)

I. OWNERSHIP OF TANKS	II. LOCATION OF TANKS
United States Department of Energy ~~P.O. Box 549~~ ~~Ross, Ohio 45061~~	Fernald Environmental Management Project Fernald, Ohio

SFSS WRITTEN REPORT MUST INCLUDE THE FOLLOWING:

SFM USE	PAGE NO.	
_____	A-C	A. The completed "SFSS Chart".
_____	2-1	B. Written report which must include justification for site features 1 through 4 which include the following:
		1. Distance of UST system from closest potable-water supply source currently in use within 1/4 mile.
		2. Average depth to groundwater.
		3. Predominant soil type of substratum in UST excavation.
		4. Natural and/or man-made conduits/receptors near closed UST system.
_____	A-B	C. Soil and/or groundwater analytical sample results in table format from closure report.

NOTE: DEFICIENT "SFSS REPORTS AND CHARTS" SUBMITTED TO OUR OFFICE WILL BE RETURNED TO THE OWNER FOR COMPLETION. SEND THE "SFSS REPORT AND CHART" TO THE ADDRESS AS INDICATED ON THE ENCLOSED COVER LETTER.

Preparer Name: Donald W. Blackert Signature: Donald W. Blackert Date: 8/20/93

Owner/Operator: EDWARD SKINTIK Signature: Edward Skintik Date: 10/12/93

BUREAU USE ONLY

Reviewed By: _____ Signature: _____ Date: 0 47

BACKGROUND INFORMATION

(Correspondence)

Department of Energy
Oak Ridge Operations
P. O. Box E
Oak Ridge, Tennessee 37831

February 1, 1989
DOE 496-89

Bureau of Underground Storage Tank Regulations
Attn: Mr. William A. Hennosy,
State Fire Marshal
P. O. Box 525
Reynoldsburg, OH 43068-3395

Dear Mr. Hennosy:

REGISTRATION PERMIT APPLICATION AND FEE FOR UNDERGROUND STORAGE TANKS (USTs)

Attached are the completed forms and the $260.00 check for the application fee.

A notification has been previously submitted to you in accordance with RCRA Underground Storage Tank notification requirements. A recent review of the facility has revealed that presently a total of 13 tanks are reportable as Underground Storage Tanks. Thus, the enclosed registration has been completed to address these 13 tanks. In the near future we will resubmit to you a revised "Notification for Underground Storage Tanks" in order to reflect this inventory of underground storage tanks.

If you have any questions or require additional information, please contact Mary Stone of my staff at (513) 738-6656.

Sincerely,

James A. Reafsnyder
Site Manager

DP-84:Stone

Attachments:
White copy -- Registration Permit Application for USTs
White copies -- Description of USTs
Registration fee -- $260.00

cc w/enclosures:

B. L. Queener, SE-31, ORO
Crosby Township Fire Department

UNDERGROUND TANK PERMIT APPLICATION

4807

ORMATION: Federal, State, and local laws govern the installation, operation, and abandonment of underground storage tanks (UST). The Ohio Fire Code requires a permit to be obtained when you are going to do any of the following: install, repair, or alter in any way a UST; modify or replace any piping connected to a UST; take a UST temporarily or permanently out of service; or place a UST back into service.

RUCTIONS: TYPE OR NEATLY PRINT ALL REQUESTED INFORMATION. ENCLOSE $50.00 APPLICATION FEE FOR EACH TANK LOCATION PERMIT. CHECK OR MONEY ORDER SHALL BE MADE PAYABLE TO: STATE FIRE MARSHAL. APPLICATION WILL NOT BE PROCESSED WITHOUT ACCOMPANYING FEE.

CHECK ONE:

TANK INSTALLATION ____
REPAIR OR ALTERATION OF TANK ____
MODIFY OR REPLACE PIPING ____

TANK OUT OF SERVICE (TEMPORARY) ____
PLACE TANK BACK INTO SERVICE ____
TANK OUT OF SERVICE (PERMANENT)
REMOVAL X **ABANDON IN PLACE*** ____
* **Explain in full in Section 6.**

TANK LOCATION:

Company Name: U.S. Department of Energy
Address: P. O. Box 398705
City: Cincinnati **County:** Hamilton
Phone: (513) 738-6200
Contact Person: Jack R. Craig

3. **OWNER INFORMATION:**

Name: U. S. Department of Energy
Address: P. O. Box 398705
City: Cincinnati **State:** Ohio
Zip Code: 45239-8705
Phone: (513) 738-6200

LOCAL JURISDICTION:

Fire Department: Crosby Township
Address: 6985 River Road
City: New Baltimore **Zip:** 45233
Phone: (513) 385-8338

NATURE OF BUSINESS:

Requested Date of Inspection: June 28, 1989 Three week's notice is required.

Contractor Information:

Name: Not currently available. Information will be provided when contract is awarded.
Address:
City: **State** **Zip:**
Contact Person: **Phone:** ( )

DESCRIPTION OF WORK TO BE COMPLETED: Ten underground storage tanks in four different locations within the Feed Materials Production Center Process Area will be removed from the ground.

Sketch of facility showing all tanks and piping including existing tanks, piping, distance from lot lines, and distance from any buildings MUST be attached to application to be processed.

SEND COPIES #1 AND #2 TO: DIVISION OF STATE FIRE MARSHAL, INSPECTION BUREAU, 8895 EAST MAIN STREET, REYNOLDSBURG, OHIO 43068-3399.
SEND COPY #3 TO: FIRE DEPARTMENT WITH JURISDICTION OVER TANK LOCATION.
RETAIN COPY #4 FOR YOUR RECORDS.

OFFICE USE ONLY

E: **County:** **Inspection District:** **Fee:** **Permit #**

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Department of Energy
FMPC Site Office
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6319

1807

May 16, 1990
DOE-1018-90

Ms. Jean Orth
Release Prevention Supervisor
Division of State Fire Marshal
Bureau of Underground Storage Tank Regulations
7510 East Main Street
P. O. Box 525
Reynoldsburg, Ohio 43068-3395

Dear Ms. Orth:

THIRTY DAY NOTIFICATION FOR UNDERGROUND STORAGE TANK CLOSURE

Reference: Letter, DOE-496-89, James A. Reafsnyder to W. A. Hennosy, Ohio Department of Commerce, Division of State Fire Marshal, "Registration Permit Application and Fee for Underground Storage Tanks (USTs)," dated February 1, 1989

The purpose of this letter is to provide written notification of our intent to permanently close ten petroleum underground storage tanks. This letter is provided at least 30 days in advance of the day physical removal activities are scheduled to begin.

The referenced letter identifies and provides for registration of 13 tanks. Of the 13 identified tanks, Tank Nos. 1, 2, 6, 8, 9, 10, 11, 12, and 13 are to be removed. It is our intent to abandon Tank No. 14 in place. A closure status report of the underground storage tanks listed above is provided herein for your information.

Applications for permits to close the ten tanks listed above will be submitted to the Division of State Fire Marshal, Inspection Bureau, as required.

If you have any questions regarding this matter, please contact David Rast at (513) 738-6322.

Sincerely,

Gerald W. Westerbeck
FMPC Site Manager

DP-84:Rast

Enclosure: As stated

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Department of Energy
FMPC Site Office
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6319

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NOV 30 1990

DOE-354-91

Mr. Tom Forbes
Division of State Fire Marshal
Bureau of Underground Storage Tank Regulations
7510 East Main Street
Reynoldsburg, Ohio 45068-3395

Dear Mr. Forbes:

TWENTY DAY REPORTING REQUIREMENTS FOR CONFIRMED UNDERGROUND STORAGE TANK (UST) RELEASES

Reference: Incident Nos. 319817-01, 319817-02, 319817-04

The purpose of this letter is to address the twenty day reporting requirements cited in your letters of October 15, 1990, in reference to the above incident numbers.

The Initial Corrective Actions Report and the Site Investigation Report as required for FMPC tank nos. 9 (Incident No. 319817-02) and 17 (Incident No. 319817-01) were transmitted to Mr. Kelley Gill, of your office, on May 14, 1990. Tank No. 17 is currently under investigation as a hazardous waste management unit. Your office will be notified when the final determination is made.

The Initial Corrective Actions Report for tank No. 3 (Incident No. 319817-04) is provided in Enclosure A. We are requesting an extension on the twenty-day period in which the Site Investigation Report is due for this incident. We ask for this extension because the tank has been removed from the ground and we are progressing with Closure Assessment at this tank site.

We are conducting closure assessments of 11 FMPC petroleum USTs. Ten of these tanks have been removed from the ground and will be closed by removal. A preliminary site investigation using soil gas analysis is currently under way. It is our intent to close the eleventh tank (no. 14) by abandonment-in-place. Per your direction, Closure Assessment Reports for the tanks currently in the suspected release category will be submitted to your office upon receipt of all analytical data. These reports will be submitted in lieu of a separate site investigation report and the initial corrective action report.

Department of Energy
Fernald Site Office
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6319

4807

MAY 2 3 1991

DOE-1406-91

Mr. Tom Forbes
Corrective Actions Supervisor
Bureau of Underground Storage Tank Regulations
Division of State Fire Marshal
6450 Poe Avenue, Suite 104
Dayton, Ohio 45414-2646

Dear Mr. Forbes:

FMPC UNDERGROUND STORAGE TANKS - REQUEST FOR EXTENSION

Reference: Letter, T. Forbes (Ohio Department of Commerce, Bureau of Underground Storage Tank Regulations) to K. Brakken, "Incident Nos. 319817-01 through 04," dated April 1, 1991

The referenced letter requested the performance and submittal of a Site Assessment (site characterization) in accordance with Ohio Underground Storage Tank (UST) regulations. The purpose of this letter is to provide our proposed plan of action and request an extension of the report submittal deadline required as a result of our intended plans.

Our proposed plan calls for the execution of the following activities to satisfy the intent of the Ohio UST regulations, while integrating the requirements of the ongoing Feed Materials Product Center (FMPC) sitewide Remedial Investigation/Feasibility Study (RI/FS):

1. Characterization of accumulated water - Samples will be taken from the water which has accumulated within the excavations and from the sediments below. These samples will be analyzed for the full spectrum Toxicity Characteristic (as defined by 40 CFR 261.24) plus any potential hazardous contaminants which may have migrated from nearby sources as determined on a location specific basis. This will allow us to pump the excavations and properly dispose of the water.

2. Disposition of water - On the basis of the completed characterization, the water will be removed from the excavations and stored or disposed of in accordance with all applicable regulations. Preliminary results indicate the water can be handled through the existing site water treatment system.

3. Excavation - A photo-ionization detector (PID) will be used to guide further excavation in an attempt to remove contaminated

soils resulting from the petroleum releases. Excavation will proceed until soil vapor levels reach background as determined by the PID.

4. Certification sampling - After background vapor levels are achieved, certification samples will be collected from the base of the excavation in accordance with RI/FS protocols. The samples will then be split and analyzed as follows:

   a. Standard UST Analyses
   Total Petroleum Hydrocarbons (TPH)
   Benzene, Toluene, Ethyl Benzene, Xylene (BTEX)
   Total Lead

   (These analyses will be performed on an expedited basis with results expected in 14 days.)

   b. Standard RI/FS Analyses
   Full Radiological Parameters
   Full Hazardous Substance List

   (These analyses will be performed utilizing the RI/FS laboratory with results expected in 90 days.)

5. Evaluate Data - If the results of the standard UST analyses indicate contaminant levels above the verbal limits formerly conveyed, further dewatering, excavation, and certification sampling will be performed. If the results of the standard UST analyses are below the limits, a report will be prepared and transmitted to your office requesting approval of a clean closure.

6. Fire Marshal Response - If the request for clean closure is granted, the excavations will be backfilled and a final report will be generated for the Administrative Record incorporating all of the RI/FS analytical data into the RI/FS data base for FMPC Operable Unit 5.

The selection of this approach is based upon the known physical characteristics of the clay-rich glacial overburden underlying the production area at the FMPC. It is believed that the proposed excavation program will allow the removal of all of the petroleum contaminants and that the analytical data will provide the necessary justification for a clean closure under Ohio underground storage tank regulations.

A schedule for this proposed course of action is enclosed. We are requesting an extension of the schedule from May 30, 1991 to November 20, 1991.

If there are any questions, our point of contact is K. T. Brakken at (513) 738-6660.

Sincerely,

Ray Hansen for

G. W. Westerbeck
Manager

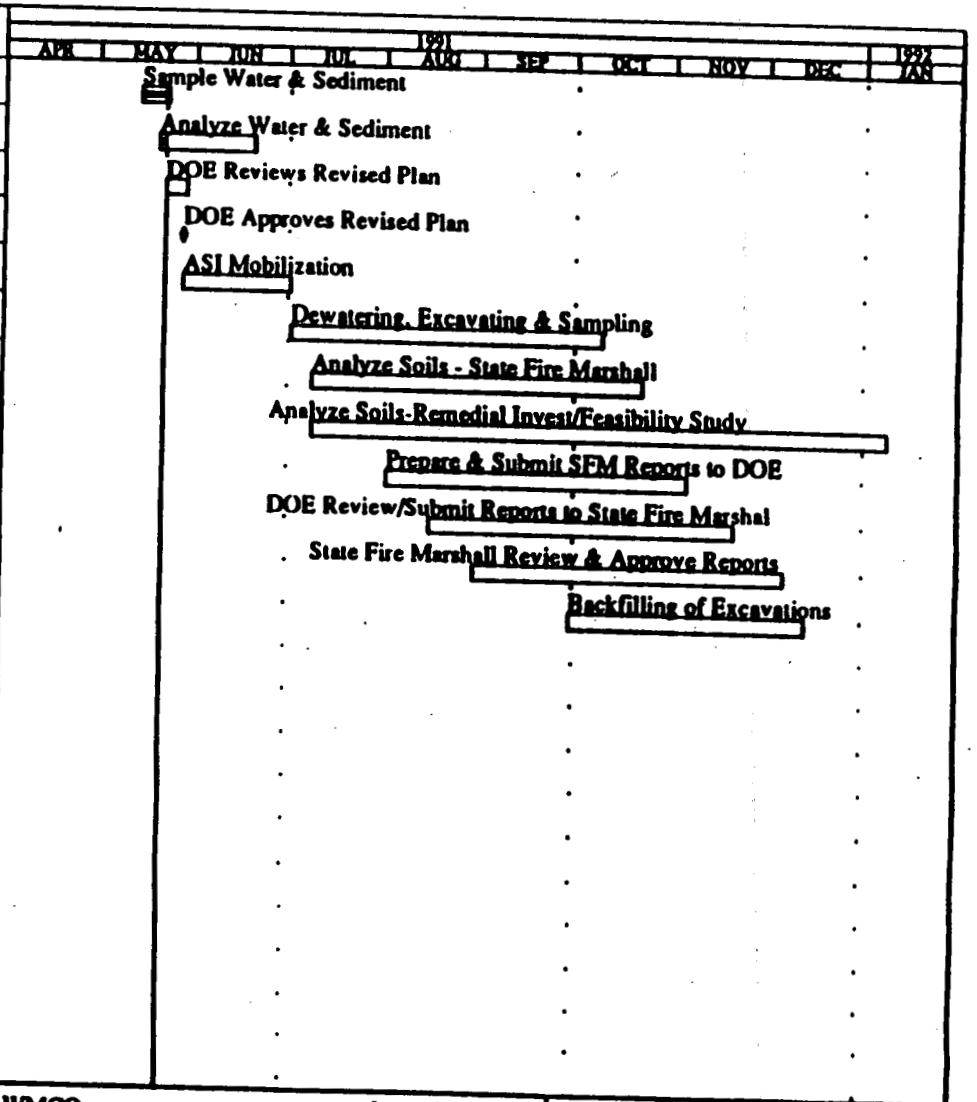
FSO:Brakken

Enclosure: As stated

cc w/encl.:

K. A. Hayes, EM-424, GTN
P. J. Gross, SE-31, ORO
E. Phillips, SE-31, ORO
S. W. Coyle, WMCO
E. D. Savage, WMCO
R. S. Shirley, WMCO
AR File

ACTIVITY ID	ORIG DUR	REM DUR	TOTL FLT	EARLY START	EARLY FINISH
R08010	10	1	156	14MAY91A	22MAY91
R08020	24	20	137	20MAY91A	19JUN91
R08030	5	4	0	22MAY91A	28MAY91
R08040	0	0	0	28MAY91	
R08050	25	25	0	28MAY91	1JUL91
R08060	70	70	0	2JUL91	9OCT91
R08070	75	75	15	9JUL91	22OCT91
R08080	125	125	0	9JUL91	8JAN92
R08090	67	67	15	2AUG91	5NOV91
R08110	67	67	15	16AUG91	20NOV91
R08130	67	67	15	30AUG91	6DEC91
R08140	52	52	15	30SEP91	13DEC91



WMCO
TASK 8 LEVEL 3
BARCHARTS LEVEL III

Sheet 1 of 1

Primavera Systems, Inc.

Project Start: 11JAN90
Project Finish: 8JAN92

Data Date: 22MAY91
Print Date: 22MAY91

Date	Revision	Checked	Approved

0 56

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Department of Energy
Fernald Environmental Management Project
P.O. Box 398705
Cincinnati, Ohio 45239-6705
(513) 738-6357

FEB 1 1 1992

DOE-814-92

Mr. Vern Ord
Bureau of Underground Storage Tank Regulations
Division of State Fire Marshal
Ohio Department of Commerce
6450 Poe Avenue
Suite 104
Vandalia, Ohio 45414

Dear Mr. Ord:

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT (FEMP) UNDERGROUND STORAGE TANK CLOSURE ACTIVITY UPDATE

Reference: 1. Ohio Incident Number 319817-01 through 04

2. DOE Letter, G. W. Westerbeck to The Release Prevention Supervisor, "Closure Assessment Report for Petroleum Underground Storage Tank Closures," dated January 25, 1991

3. DOE Letter, G. W. Westerbeck to Tom Forbes, "FMPC Underground Storage Tanks - Request for Extension," dated May 23, 1991

The reference letter (2) provided a plan for clean closure of four of the five FEMP Underground Storage Tank (UST) sites through excavation of petroleum-contaminated soils. A key assumption made in the development of the plan was that the petroleum-contaminated soils could be excavated to below regulatory maximum levels. Upon execution of the referenced plan, the Department of Energy (DOE) has determined that clean closure will not be possible at two of the four tank locations because the petroleum contamination has spread farther than anticipated. Petroleum contamination has spread beneath existing structures making excavation of the soils at those two sites impractical at this time. The purpose of this letter is to provide an update of the current situation and to present DOE's course of action which will adequately address the regulatory issues associated with each of the tank closure sites.

There are five locations in the process area which are currently being addressed under the FEMP UST Program. Four of these locations involve tank removals. The fifth location involves closure of a tank by abandonment-in-place. Current plans call for three of the sites (Building 12, Building 24A, and Plant 6) to be closed under Resource Conservation and Recovery Act (RCRA) Subtitle I Regulations. The other two tank removal sites (Garage and Plant 1 Truck Dock) have significant petroleum contamination which could not be excavated. Considering the fact that other non-petroleum contaminants are

present (see Enclosure 2), DOE believes that these two sites should be addressed as either Comprehensive Environmental Response Compensation and Liability Act (CERCLA) removal or remedial actions since this would provide the authority to treat the full spectrum of contaminants present in the soils at the site. Any response under RCRA, Subtitle I, at that point would have authority to treat only the petroleum contaminants. A brief status and course of action for each location follows.

USTs TO BE CLOSED UNDER SUBTITLE I REGULATIONS

Maintenance Building Number 12 (Tank 6)

The soils surrounding the tank were sampled upon completion of tank removal in the fall of 1990. Analytical results have indicated petroleum contamination levels are below the levels which would require further action. The DOE is awaiting formal confirmation of clean closure from the State Fire Marshal's Office (see Reference 3). In the interim, the DOE has proceeded with backfilling the open excavation with clean gravel.

Railroad Engine House - Building 24A (Tank 3)

The soils surrounding the tank were sampled upon completion of the tank removal in the fall of 1990. Analytical results indicated the need for further action. In the fall of 1991, petroleum-contaminated soils were excavated to the maximum extent practical. Organic vapor readings indicate "clean" soils in all excavated areas with the exception of a small zone under the northeast corner of Building 24A. The zone could not be excavated as this would compromise the structural integrity of the building. Vapor readings are approximately one part per million above background in this location. Although petroleum contamination is present, it is DOE's intent to sample the excavation walls and floor in an attempt to gain a clean closure because the level of contamination may not be high enough to warrant further action. Backfilling with clean gravel is to occur after completion of the sampling. If analytical results indicate petroleum contaminant levels in the soils will require further action, then DOE believes any further action required would be best performed using CERCLA response authority due to the presence of non-petroleum contaminants. The first step taken to address the residual contamination will be to backfill the existing excavation using clean gravel. The next step will be to determine whether cleanup will be handled as a CERCLA removal or remedial action. This will be accomplished by performing a soils investigation which will combine soil borings, sampling, and analytical testing in order to determine the extent of vertical and horizontal contamination. The results of this investigation will then be used to make a risk-based determination of the future course of action. If it is found that the residual contamination does not present enough of a risk to justify immediate action, further operations will be deferred for cleanup in conjunction with CERCLA remedial actions. If it is found that the residual contamination presents a risk great enough to warrant immediate action, it will be taken in the form of a CERCLA removal action.

Plant 6 (Tank 14)

Tank 14 is a 3,000-gallon steel tank which is located underneath Plant 6. The south end of the tank is located directly underneath the exterior wall foundation. The Ohio State Fire Marshal has verbally given permission to close this tank by abandonment-in-place under Subtitle I, since removal of the tank threatens the structural integrity of the building. Soil samples will be taken from this location in order to verify that the integrity of the tank has not been breached. This would allow a closure-in-place under Subtitle I. The tank is located relatively close to the ongoing Plant 6 Perched Water Removal Action, where non-petroleum volatile organic contamination is being treated. If verification of tank integrity cannot be provided, further action would be best performed under CERCLA response authority.

USTs TO BE CLOSED UNDER CERCLA

These excavations have been backfilled with clean gravel. The next step will be to determine whether cleanup will be handled as a CERCLA removal or remedial action. This will be accomplished by performing a soils investigation which will combine soil borings, sampling, and analytical testing in order to determine the extent of vertical and horizontal contamination. The results of this investigation will then be used to make a risk-based determination of the future course of action. If it is found that the residual contamination does not present enough of a risk to justify immediate action, further operations will be deferred for cleanup in conjunction with CERCLA remedial actions. If it is found that the residual contamination presents a risk great enough to warrant immediate action, it will be taken in the form of a CERCLA removal action.

Garage - Building 31 (Tanks 1, 2, 8, 9, and 10)

The soils surrounding the tanks were sampled upon completion of the tank removals in the fall of 1990. Analytical results indicated the need for further excavation. In the fall of 1991, petroleum contaminated soils were excavated to the extent practical. Organic vapor readings indicate petroleum-contaminated soils in all walls and the floor of the excavation. Evidence indicates petroleum contaminated soils exist underneath the Garage Building which could not be excavated because the structural integrity of the building would be compromised. Petroleum contamination has also been observed over 100 feet west of the tank locations at a depth of approximately five feet. It is believed that the abundance of underground utilities in the area has contributed significantly to the spread of contamination. Since the excavation of all of the contaminated soils at this location has proven infeasible, an alternative method of addressing the contamination must be initiated.

A soils characterization program will be undertaken and a risk-based analysis will be performed as described above. Any further action required would be performed using CERCLA response authority due to the presence of non-petroleum contaminants. Additionally this tank is located in close proximity to the RCRA closure activities of a UST containing hazardous waste. The possibility for some of the soils to be cross contaminated with RCRA constituents exists.

Plant 1 Truck Dock (Tanks 11, 12, and 13)

The soils surrounding the tanks were sampled upon completion of the tank removals in the fall of 1990. Analytical results indicated the need for further excavation. In the fall of 1991, during the excavation of petroleum-contaminated soils, a pocket of what appeared to be fly ash and rubble was encountered approximately 50 feet east of the tank cluster location at a depth of about 9 feet. Inconsistent organic vapor readings led to sampling of the soils and analytical testing. Results indicated the presence of acetone and methanol. Excavation was discontinued at that location because any further response should address petroleum as well as non-petroleum volatile organics. Evidence also indicates petroleum-contaminated soils exist underneath the Plant 1 Truck Dock which could not be excavated without compromising the structural integrity of the truck dock. In light of the fact that the excavation of all of the petroleum-contaminated soils at this location has proven infeasible, an alternative method of addressing the contamination must be initiated. A soils characterization program will be undertaken and a risk-based analysis will be performed as described above. Any further action required would be performed using CERCLA response authority due to the presence of non-petroleum contaminants.

The FEMP is proceeding with the above proposed actions in accordance with the schedule provided in Enclosure 1.

If you or your staff have any questions, please contact Rod Warner, of my staff, at (513) 738-8916.

Sincerely,

R. E. Tiller

R. E. Tiller
Manager

FO:Warner

Enclosures: As Stated

cc w/encs.:

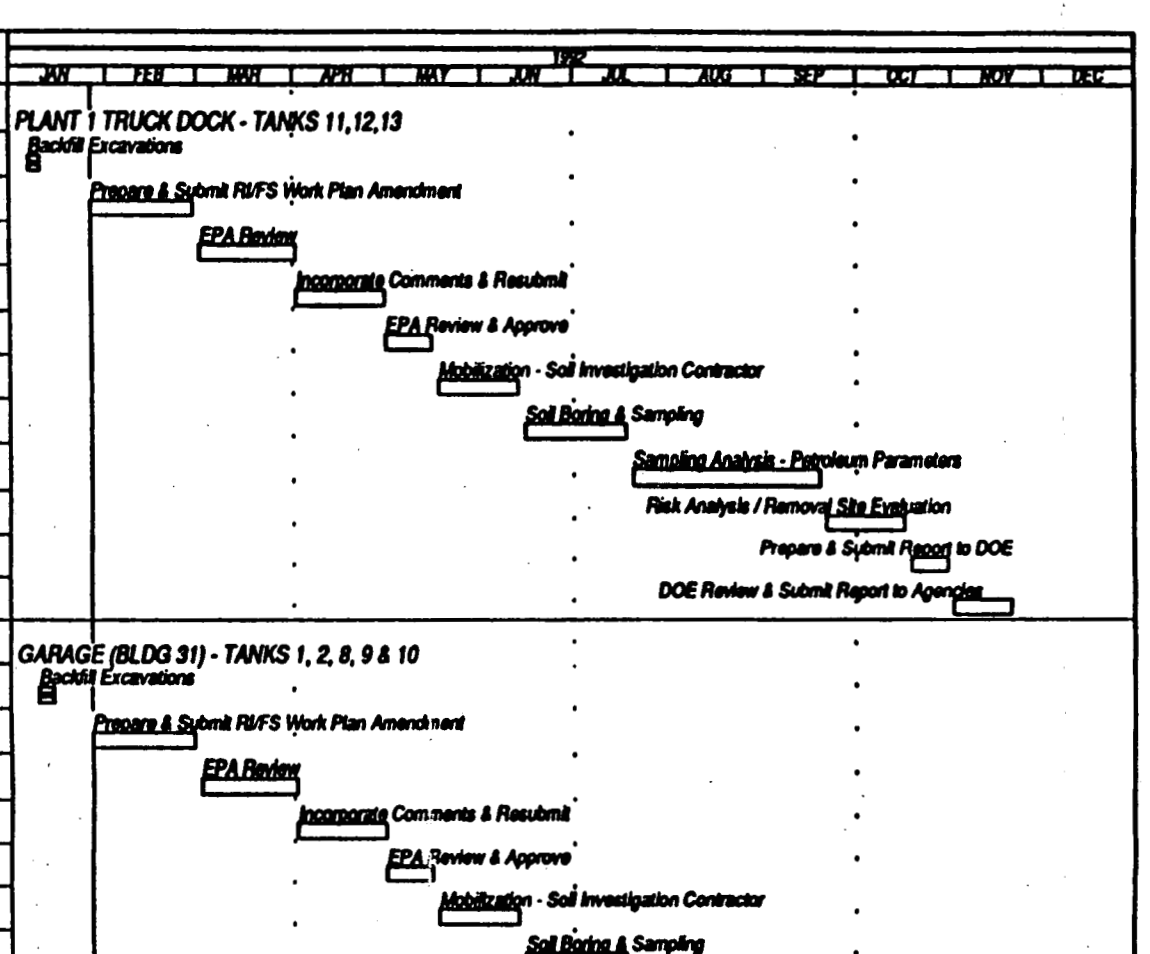
K. A. Hayes, EM-424, TREV
C. Anderson, EM-424, TREV

cc w/o encs.:

S. W. Coyle, WEMCO
J. A. Eckstein, WEMCO
J. P. Hopper, WEMCO

ENCLOSURE 1

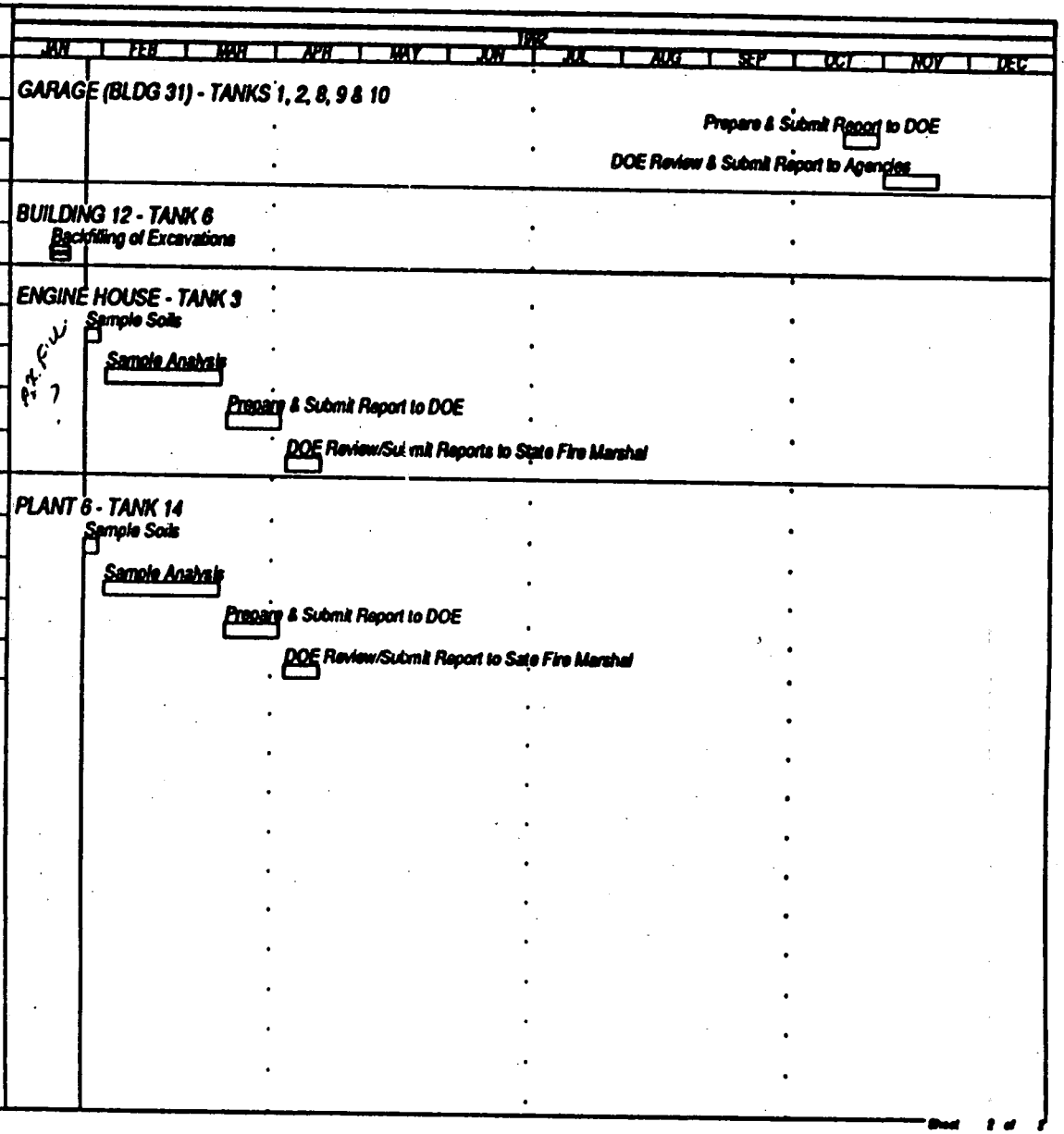
ACTIVITY ID	ORIG DUR	REM DUR	EARLY START	EARLY FINISH
RC081A0070	14	0	7JAN92A	10JAN92A
RC081A0072	24	24	27JAN92	28FEB92
RC081A0074	23	23	2MAR92	1APR92
RC081A0076	21	21	2APR92	30APR92
RC081A0078	11	11	1MAY92	15MAY92
RC081A0080	19	19	18MAY92	12JUN92
RC081A0090	24	24	15JUN92	17JUL92
RC081A0110	44	44	20JUL92	18SEP92
RC081A0130	20	20	21SEP92	16OCT92
RC081A0140	10	10	19OCT92	30OCT92
RC081A0150	13	13	2NOV92	20NOV92
RC083A0070	6	0	10JAN92A	14JAN92A
RC083A0072	24	24	27JAN92	28FEB92
RC083A0074	23	23	2MAR92	1APR92
RC083A0076	21	21	2APR92	30APR92
RC083A0078	11	11	1MAY92	15MAY92
RC083A0080	19	19	18MAY92	12JUN92
RC083A0090	24	24	15JUN92	17JUL92
RC083A0110	44	44	20JUL92	18SEP92
RC083A0130	20	20	21SEP92	16OCT92



Westinghouse Environ. Mngmt Co. Ohio
Baseline RCRA Facility Assessment
PJNO 8

4802

ACTIVITY ID	ORIG DUR	REM DUR	EARLY START	EARLY FINISH
RC083A0140	10	10	19OCT92	30OCT92
RC083A0150	13	13	2NOV92	20NOV92
RC086A0140	10	0	15JAN92A	21JAN92A
RC087A0070	5	5	27JAN92	31JAN92
RC087A0080	29	29	3FEB92	13MAR92
RC087A0090	15	15	16MAR92	3APR92
RC087A0110	10	10	6APR92	17APR92
RC088A0070	5	5	27JAN92	31JAN92
RC088A0080	29	29	3FEB92	13MAR92
RC088A0090	15	15	16MAR92	3APR92
RC088A0110	10	10	6APR92	17APR92



ENCLOSURE 1

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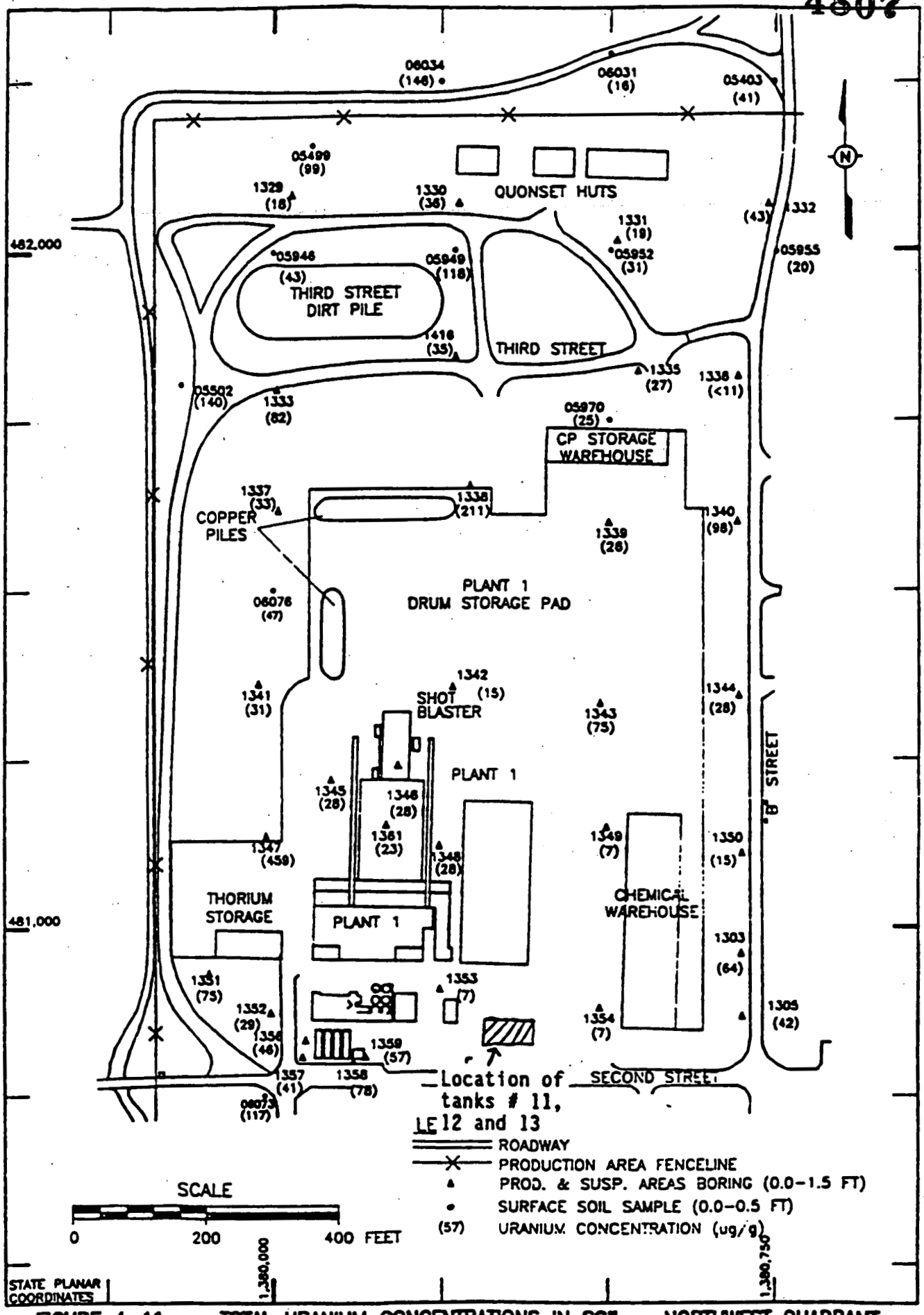

FIGURE 4-11 . TOTAL URANIUM CONCENTRATIONS IN SOIL - NORTHWEST QUADRANT

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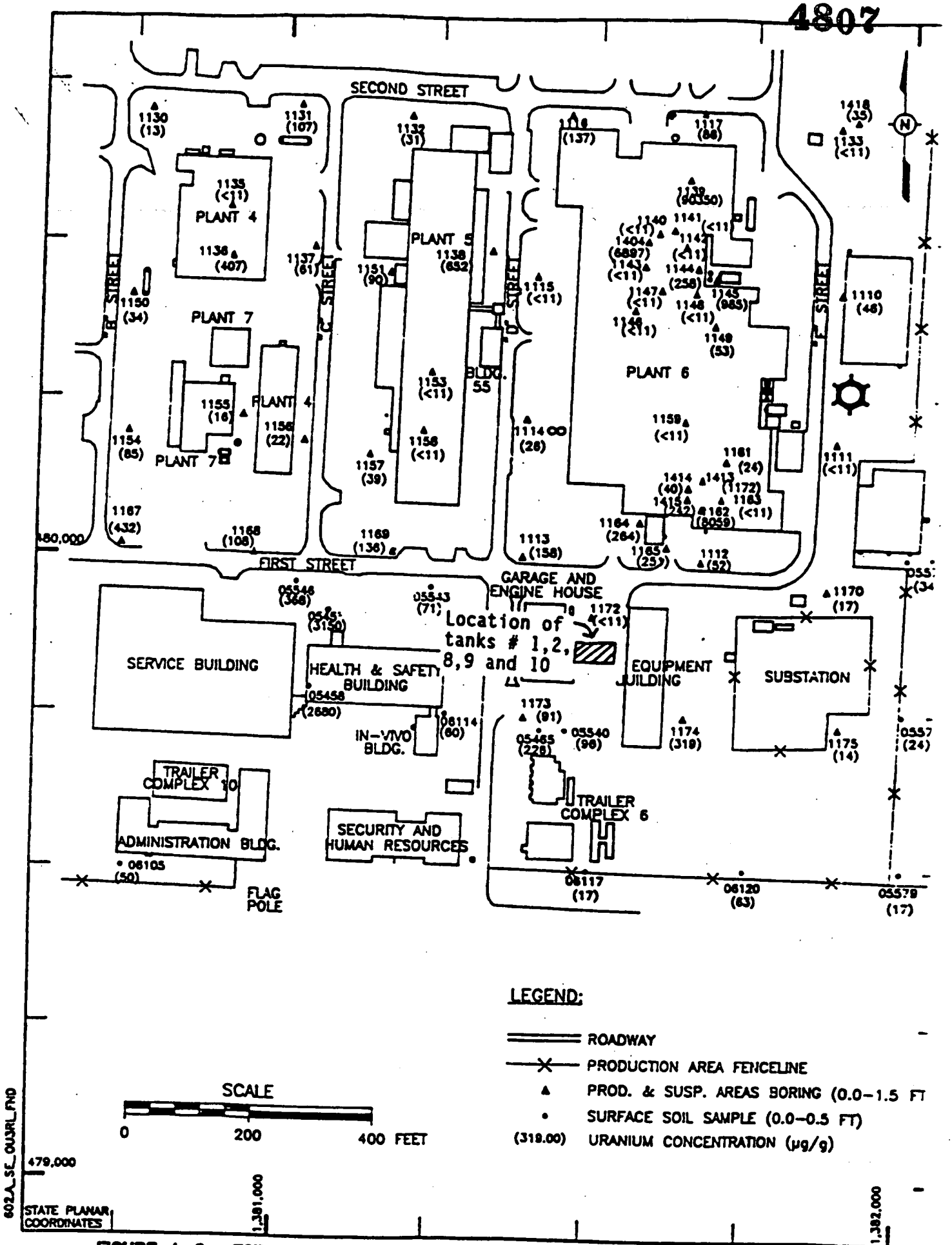

602A_SE_QUADRL.FND

FIGURE 4–6. TOTAL URANIUM CONCENTRATIONS IN SOIL – SOUTHEAST QUADRANT